

WHAT IS CLAIMED IS:

1. A turbocharger, comprising the following:

a turbine housing (2) with at least one supply channel means (9) in said housing (2) for supplying exhaust gas, wherein at least one turbine rotor (4) rotatably supported within said housing (2), said supply channel means (9) being arranged to supply said exhaust gas to said turbine rotor (4) in order to rotate it, spacer means forming a passage of variable cross-section between said supply channel means (9) and said turbine rotor (4) in order to control the amount of exhaust gas admitted to said turbine rotor (4), said means including, a plurality of vanes (7) of predetermined width distributed in an annular vane space (13) of approximately said width around said turbine rotor having two axial ends to form a passage between them for admitting exhaust gas to said turbine rotor (4), each vane (7) being pivoted about an axis to enable control of the amount of exhaust gas,

a vane support ring member (6) supporting said axes of said vanes (7), said vane support ring member (6) defining one axial end of said annular vane space by a first circumferential surface,

a second ring member (15) facing and being spaced from said support ring member (6) by said width to define the other axial end of said annular vane space (13) by a second circumferential surface, thereby characterized, that

at least two spacer means (16) are integrally formed on at least one of said circumferential surfaces of said ring members (6, 15) and being distributed over its respective circumferential surface to ensure said the width of said vane space.

2. The turbocharger (1) according to claim 1, wherein said spacer means (16) are integrally formed on said vane support ring member.

3. The turbocharger (1) according to claim 1 or 2, wherein at least one of said ring members (6 or 15) is of cast metal, said spacer means (16) being integrally cast.
4. The turbocharger (1) according to one of the preceding claims, wherein said spacer means (16) are integrally formed in an outer circumferential border zone of said circumferential surface (6 or 15) of at least one of said ring members.
5. The turbocharger (1) according to one of the preceding claims, wherein at least one of said ring members (6 or 15) includes a radial outer circumferential border area of said circumferential surface, and a radial inner circumferential area of said circumferential surface defining a radial plane, said radial outer area shrinking back from said radial plane.
6. The turbocharger (1) according to one of the preceding claims, wherein said spacer means (16) are arranged in said radial outer circumferential border area of said circumferential surface.
7. The turbocharger (1) according to one of the preceding claims, wherein at least part of said spacer means has a bore for passing a connection bolt through.
8. Vane ring (6) for a turbocharger (1) according to one of the preceding claims, wherein bore holes (20) are distributed around the circumference for the passage through of vane (7) shafts (8), thereby characterized, that the spacer means (16) distributed around the circumference, preferably with aerodynamic shape, are formed unitarily, for example by casting, the spacer means being cast together with the ring.